International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

INTERNATIONAL JOURNAL OF ENTREPRENEURSHIP AND MANAGEMENT PRACTICES (IJEMP)
www.ijemp.com

FTSE KLCI DYNAMICS: IMPACT OF REAL INTEREST RATES AND INDUSTRIAL PRODUCTION INDEX

Evawaynie Valquis Md Isa[1*], Md. Aminul Islam[2], Aliana Shazma Amir Amir[3]

[1] Department of Business, Faculty of Business & Communication, Universiti Malaysia Perlis, Malaysia
Email: evawaynie@unimap.edu.my
[2] College of Business Administration, Prince Mohammad Bin Fahd University, Al-Khobar, Saudi Arabia
Email: mislam@pmu.edu.sa
[3] Department of Business, Faculty of Business & Communication, Universiti Malaysia Perlis, Malaysia
Email: aliana@unimap.edu.my
[*] Corresponding Author

Article Info:

Article history:
Received date: 30.06.2025
Revised date: 20.07.2025
Accepted date: 21.08.2025
Published date: 19.09.2025

To cite this document:

Md Isa, E. V., Islam, M. A., & Amir, A. S. A. (2025). FTSE KLCI Dynamics: Impact of Real Interest Rates and Industrial Production Index. *International Journal of Entrepreneurship and Management Practices, 8* (31), 304-319.

DOI: 10.35631/IJEMP.831020

Abstract:

This study examines the impact of the Real Interest Rate (RIR) and the Industrial Production Index (IPI) on the movements of the FTSE Bursa Malaysia KLCI (FTSE KLCI) from 2008 to 2023. As Malaysia transitions toward a more market-based financial system, critical issues arise regarding how macroeconomic variables affect stock market behaviour in an emerging market context. Despite the growing body of literature, there remains a gap in understanding how monetary and real sector indicators jointly influence stock market dynamics, particularly in the Malaysian context. RIR, which reflects the real cost of capital, affects corporate borrowing and speculative investment, while IPI serves as a proxy for economic productivity and industrial growth. This study applies a Random Effects Model to 16 years of FTSE KLCI data, using key diagnostics (ADF, VIF, Breusch-Pagan, Durbin-Watson) to ensure robust, reliable results. Findings show that RIR exerts a significant negative effect on stock market movements, suggesting that higher real interest rates act as a stabilizing force. In contrast, IPI has a positive and significant relationship with stock movements, indicating that industrial expansion increases market responsiveness. These results support the semi-strong form of the Efficient Market Hypothesis (EMH), affirming that public macroeconomic information is swiftly absorbed into asset prices. With strong explanatory power (R^2 = 0.9925), the study offers key insights into how macroeconomic factors shape stock market dynamics in Malaysia's growing capital market.

Keywords:

Efficient Market Hypothesis, FTSE KLCI

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

Introduction

Stock market movements play a central role in reflecting investor sentiment, risk perception, and overall economic stability. In emerging markets like Malaysia, understanding the macroeconomic determinants of movements is crucial for both policymakers and market participants. The FTSE Bursa Malaysia Kuala Lumpur Composite Index (FTSE KLCI), which tracks the performance of the top 30 companies listed on Bursa Malaysia, serves as a vital barometer of the country's financial health and investment climate. As such, any fluctuation in the index has far-reaching implications for domestic investment decisions, capital allocation, and economic confidence (Lee & Azam, 2020).

One of the widely accepted theories underpinning stock market behavior is the Efficient Market Hypothesis (EMH), originally proposed by Fama (1970), which postulates that asset prices fully reflect all available information. The semi-strong form of EMH, in particular, suggests that stock markets promptly adjust to all publicly disclosed macroeconomic indicators. In this context, macroeconomic fundamentals such as real interest rates (RIR) and the industrial production index (IPI) are often cited as major drivers of stock market movements (Chong et al., 2021; Mohamad et al., 2020).

The real interest rate (RIR), reflecting the true cost of borrowing after adjusting for inflation, serves as a critical tool of monetary policy and influences corporate financing, consumer spending, and investment decisions. Numerous studies have shown that increases in RIR tend to dampen speculative trading and reduce stock market movements, especially in interest-sensitive markets (Khan et al., 2021; Lim & Nordin, 2020).

On the other hand, the Industrial Production Index (IPI) acts as a proxy for the real economy, capturing manufacturing output and broader industrial activity. Fluctuations in IPI signal changes in economic growth prospects and can influence investor expectations and market movements (Salim & Roslan, 2022; Nasir & Khalid, 2019).

Despite the richness of macroeconomic data available for Malaysia, existing research has largely treated macroeconomic indicators in isolation or focused narrowly on short-term correlations with market returns (Wong & Rahim, 2022; Lee & Isa, 2021).

While numerous studies have examined the individual effects of interest rates or industrial production on Malaysian stock performance (Mohamad et al., 2020; Nasir & Khalid, 2019), relatively few have adopted a comprehensive approach to assess how RIR and IPI jointly shape FTSE KLCI movements, especially during periods of economic turbulence.

For instance, Chong et al. (2021) and Lee and Isa (2021) investigated macroeconomic impacts on ASEAN or Malaysian stock markets but did not specifically account for interactions between these two key variables across crisis episodes. Moreover, most analyses are confined to shorter data spans, limiting their ability to detect structural breaks, investor responses to macroeconomic shocks, and evolving monetary transmission mechanisms (Wong & Rahim, 2022; Rasiah et al., 2017).

A reassessment using an extended horizon from 2008 to 2023 is crucial to capture the cumulative effects of major economic disruptions namely the Global Financial Crisis and the COVID-19 pandemic on Malaysia's stock market. This period also reflects key structural

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

transitions, including monetary policy liberalization, interest rate adjustments, and shifts in industrial output. Such a long-term approach enables a deeper understanding of how Real Interest Rates (RIR) and the Industrial Production Index (IPI) jointly influence FTSE KLCI movements across different economic regimes, market sentiments, and policy environments (Ruslan, 2022; Hashim, 2021; Md Salleh et al., 2020; Zainudin et al., 2021).

Literature Review

FTSE KLCI and the Efficient Market Hypothesis: Key Trends and Evidence

The FTSE Bursa Malaysia Kuala Lumpur Composite Index (FTSE KLCI) is the benchmark stock market index for Malaysia, reflecting the performance of the country's top 30 listed companies by market capitalization. As an essential barometer of market sentiment and economic performance, the index has attracted extensive scholarly attention, particularly in relation to the Efficient Market Hypothesis (EMH).

The EMH, originally introduced by Fama (1970), posits that stock prices fully reflect all available information, rendering it impossible to consistently achieve abnormal returns through information-based trading. Over the years, the FTSE KLCI has provided a useful testing ground for evaluating the validity of EMH, especially within the context of emerging markets like Malaysia. Table 1.0 presents key findings from previous studies that form the basis for this study's exploration.

Table 1.0 Summary Key Findings From Previous Study

Authors	Year	Variables Used	Theory	Findings	Suggestions for Future Research
Fama	1970	General stock indices, General stock prices	EMH	Introduced the Efficient Market Hypothesis (EMH), proposing that stock prices fully reflect all available information.	Further empirical testing in different market contexts, especially emerging markets.
Chong et al.	2021	FTSE KLCI Index, macroeconomic announcements, -investors' sentiments	EMH	Found semi-strong efficiency in Malaysia; short-term deviations due to sentiment or shocks	Investigate role of behavioral finance in short-term inefficiencies
Mohamad et al.	2020	FTSE KLCI Index,	EMH	FTSE KLCI adjusts rapidly to	Examine high-frequency trading behavior and

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

		macroeconomic announcements		macroeconomic news; some overreactions noted.	investor sentiment.
Lim & Nordin	2020	Real interest rates, FTSE KLCI	EMH	Interest rate changes correlate with stock movements; investors respond rationally.	Explore causal link between monetary policy and investor reactions.
Lee & Azam	2020	Industrial Production Index, stock returns	EMH	Industrial production strongly impacts stock returns during economic cycles.	Examine IPI-stock return relationships across different sectors.
Nasir & Khalid	2019	Industrial output, inflation, stock indices	EMH	Malaysia's stock market more sensitive to domestic macro variables.	Compare Malaysia's responsiveness with other ASEAN markets over crises.
Wong & Rahim	2022	Political uncertainty, speculative trading, investor sentiment	Behavioral Finance, EMH	Stock market largely efficient but political risk and behavior cause short-term inefficiencies.	Analyze political events and speculative trading impact on FTSE KLCI

Source: Author's (2025)

Recent literature has produced mixed evidence on the degree of efficiency within the Malaysian equity market. According to Chong et al. (2021), while the Malaysian stock market demonstrates characteristics of semi-strong efficiency, short-term deviations can still occur in response to macroeconomic shocks or investor sentiment. Using high-frequency data, Mohamad et al. (2020) found that the FTSE KLCI adjusts rapidly to public macroeconomic announcements, supporting the semi-strong form of EMH. However, they also observed temporary overreactions during periods of heightened movements, suggesting pockets of inefficiency driven by behavioral responses.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

Several studies have attempted to identify key macroeconomic drivers of FTSE KLCI fluctuations. Among these, real interest rates, inflation, industrial production, and consumer sentiment have consistently emerged as significant predictors. For instance, Lim and Nordin (2020) demonstrated that monetary policy shifts particularly changes in real interest rates are strongly correlated with stock market movements, reinforcing the argument that Malaysian investors react rationally to interest rate signals.

Similarly, Lee and Azam (2020) provided evidence that industrial production movements significantly affect stock returns and movements, especially in periods of economic expansion or contraction. These findings are consistent with the EMH's assertion that publicly available macroeconomic data are rapidly incorporated into stock prices.

Further empirical support is provided by Nasir and Khalid (2019), who analysed a range of macroeconomic variables and their impact on stock indices across ASEAN markets. Their results indicate that Malaysia's market shows higher sensitivity to domestic indicators like industrial output and inflation compared to regional peers, underlining the FTSE KLCI's responsiveness to national economic dynamics. This sensitivity supports the semi-strong form of EMH, wherein stock prices adjust promptly to new public information.

Nonetheless, not all researchers agree on the full applicability of EMH in Malaysia. A study by Wong and Rahim (2022) argues that while the market is broadly efficient in its response to fundamental information, speculative trading, political uncertainty, and behavioral biases continue to create short-term anomalies. This implies that although the FTSE KLCI aligns with EMH principles over the long run, it may still exhibit inefficiencies in the short run due to irrational investor behavior a view echoed by behavioral finance scholars.

The literature confirms that the FTSE KLCI exhibits features consistent with the semi-strong form of EMH, especially in its reaction to macroeconomic indicators such as real interest rate (RIR) and industrial production index (IPI). The empirical evidence from recent years highlights the Malaysian market's increasing maturity and its growing responsiveness to economic fundamentals. However, temporary inefficiencies continue to surface due to external shocks and behavioral influences, suggesting that while EMH is largely applicable, it does not fully eliminate all predictive opportunities or movements anomalies.

In light of these observations, this study aims to achieve the following research objectives:

i. To examine the influence of real interest rates on the movements of the FTSE Bursa Malaysia KLCI (FTSE KLCI).
ii. To assess the impact of the industrial production index on the movements of the FTSE KLCI.

To achieve these objectives, the following research questions have been formulated:

i. Does the real interest rate significantly influence the movements of the FTSE Bursa Malaysia KLCI (FTSE KLCI)?
ii. Does the industrial production index significantly affect the movements of the FTSE KLCI?

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

To explore this relationship, three hypotheses are developed in this study:

H_1: Real interest rate has a significant influence on the movements of FTSE Composite Index.

H_2: Industrial production index has a significant influence on the movements of FTSE Composite Index.

Methodology

Research Design

This study adopts a quantitative research design grounded in the positivist paradigm, which emphasizes objective measurement and statistical analysis to explain relationships between observable variables (Creswell & Creswell, 2018). The design is appropriate given the study's focus on empirically testing the influence of macroeconomic variables namely, Real Interest Rate (RIR) and Industrial Production Index (IPI) on the movements of the FTSE Bursa Malaysia KLCI. Quantitative approaches are widely recognized for their ability to handle large datasets, test hypotheses, and draw generalizable conclusions in financial and economic research (Hair et al., 2021).

The study utilizes secondary panel data collected over a 16-year period (2008 to 2023), which allows for both cross-sectional and time-series dimensions of analysis. This approach enhances the model's explanatory power and reliability by capturing dynamic patterns across time and economic cycles (Wooldridge, 2020). Data were sourced from reputable financial and economic databases, including Bank Negara Malaysia, Department of Statistics Malaysia (DOSM), and Bursa Malaysia.

To estimate the relationships, the study employs a Random Effects Model (REM), suitable when unobserved heterogeneity across entities is assumed to be uncorrelated with the independent variables (Gujarati & Porter, 2009). The Hausman test was conducted to determine the appropriateness of REM over the Fixed Effects Model, and the test results validated the use of REM (Torres-Reyna, 2022; Baltagi, 2021;).

The dependent variable is the movements of the FTSE KLCI, a key indicator of investor sentiment and market uncertainty. The independent variables include the Real Interest Rate (RIR) which captures the cost of borrowing in real terms and the Industrial Production Index (IPI) a proxy for economic performance and industrial activity. This model specification is in line with recent literature examining the role of macroeconomic variables in driving stock market behavior in emerging economies (Lee & Azam, 2020; Nasir et al., 2019).

Thus, this research design integrates a structured, data-driven approach using econometric modelling to test theoretically grounded hypotheses. It ensures the validity, reliability, and replicability of results through systematic data collection, robust statistical techniques, and alignment with established theoretical frameworks such as the Efficient Market Hypothesis (Fama, 1970).

Data Collection

This study is based entirely on secondary data, collected from authoritative and publicly available sources to ensure validity and consistency. The data spans a 16-year period from 2008 to 2023, enabling the analysis of long-term trends and the macroeconomic influences on the

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

movements of the FTSE Bursa Malaysia KLCI (FTSE KLCI). The use of monthly data provides adequate frequency to capture fluctuations in macroeconomic indicators and market responses over time.

The dependent variable, FTSE KLCI movements, is computed using the standard deviation of monthly logarithmic returns, in line with conventional methods in financial econometrics (Brooks, 2019).

Monthly closing index values are sourced from World Band Data, cross-verified with Bursa Malaysia to ensure data integrity. This movements measure reflects investor reactions to economic information and is a widely accepted proxy for market uncertainty.

The independent variables used in the model are the Real Interest Rate (RIR) and the Industrial Production Index (IPI). RIR is calculated by subtracting the inflation rate (CPI) from the nominal interest rate, capturing the real cost of borrowing. Data on nominal interest rates and CPI are obtained from Bank Negara Malaysia (BNM) and the World Bank Open Data. The IPI, which serves as a proxy for industrial and economic activity, is collected from the Department of Statistics Malaysia (DOSM). These variables are chosen based on theoretical relevance and their frequent application in similar studies examining stock market behavior in emerging economies (Lee & Azam, 2020; Nasir et al., 2019).

Method of Analysis

All variables are collected in monthly frequency and organized into a panel dataset structure to support the application of econometric techniques such as the Random Effects Model (REM). The data underwent cleaning and transformation using Microsoft Excel and STATA software to handle any missing values or inconsistencies. Only complete and consistent observations were retained to ensure the robustness of the final analysis.

By relying on official national and global data sources, this study ensures the reliability, transparency, and replicability of its findings. The data collection approach is consistent with recent empirical research in macro-finance, which emphasizes the use of high-quality time-series data to explore financial market dynamics in emerging economies.

Variables

This study examines the relationship between macroeconomic factors specifically the Real Interest Rate (RIR) and the Industrial Production Index (IPI) and the movements of the FTSE Bursa Malaysia KLCI (FTSE KLCI) over the period from 2008 to 2023.

The dependent variable is the FTSE Bursa Malaysia KLCI (FTSE KLCI), measured using its monthly closing index values. As Malaysia's main stock market benchmark, the FTSE KLCI reflects investor sentiment and overall market performance. This measure is widely used in empirical studies to assess the impact of macroeconomic factors on stock market movements (Ibrahim & Wan Yusoff, 2001; Ali et al., 2010).

The FTSE KLCI, which captures the performance of Malaysia's top 30 listed companies by market capitalization, is widely used as a proxy for stock market behavior and investor sentiment in the country. Movements in this index reflect the economic and financial dynamics of the Malaysian market. Prior studies emphasize the importance of the FTSE KLCI in

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

capturing the aggregate effects of domestic macroeconomic shocks and financial developments (Ali et al., 2010; Ibrahim & Wan Yusoff, 2001).

The Real Interest Rate (RIR), calculated as the nominal interest rate adjusted for inflation, serves as a key indicator of the monetary policy stance and the cost of borrowing in the real economy. Changes in RIR affect investment decisions, consumption behavior, and overall capital flows. From a financial market perspective, higher real interest rates increase the opportunity cost of holding stocks, potentially leading to downward pressure on stock prices. Conversely, lower RIRs often stimulate investment and stock market growth. Several empirical studies have demonstrated a significant relationship between RIR and stock market performance in both developed and emerging markets (Hussainey & Ngoc, 2009; Gan et al., 2006).

The Industrial Production Index (IPI) is another critical macroeconomic variable, representing the monthly changes in output from Malaysia's key industrial sectors, including manufacturing, mining, and utilities. As a proxy for real economic activity, the IPI provides insights into the health and direction of the economy. Positive changes in industrial production are generally associated with increased business confidence, higher corporate earnings, and improved investor expectations factors that tend to boost stock market performance. Seminal works by Fama (1981) and Chen et al. (1986) support the view that industrial output growth is positively correlated with stock returns, reflecting the fundamental link between production levels and market valuation.

Model Specification

This study applies a Random Effects Model (REM) using panel regression techniques to investigate the impact of macroeconomic variables on the movements of the FTSE Bursa Malaysia KLCI. The REM is suitable when unobserved individual-specific effects are assumed to be uncorrelated with the explanatory variables, allowing for more efficient and consistent estimators in comparison to fixed effects under such assumptions (Wooldridge, 2020; Gujarati & Porter, 2009). To validate this choice, the Hausman test was conducted, and the result confirmed the appropriateness of the REM over the Fixed Effects Model (Torres-Reyna, 2022; Baltagi, 2021).

The model estimates the direct effect of two macroeconomic variables: Real Interest Rate (RIR) and Industrial Production Index (IPI) on stock market movements. This approach aligns with recent empirical studies that emphasize the importance of macroeconomic fundamentals in influencing stock market behavior in emerging economies (Lee & Azam, 2020; Nasir et al., 2019). The econometric model is specified as follows:

Model:

$$\text{FTSE KLCI}_{it} = \beta_0 + \beta_1 \text{RIR}_{it} + \beta_2 \text{IPI}_{it} + \varepsilon_{it}$$

Where:

FTSE KLCI_{it} represents stock market movements for entity i at time t,
RIR_{it} is the Real Interest Rate,
IPI_{it} is the Industrial Production Index, and
ε_{it} is the error term.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

This specification enables a focused assessment of the relationship between core macroeconomic indicators and stock market movements in Malaysia.

Analysis of Findings

Findings

Table 2.0 Summary of the Random Effect (Model) for Hypotheses Testing

DV FTSE KLCI	Expected Sign	Actual Sign	Coefficient	Standard Error	t	P>|t|
Constant			-102.2182	.0802	-6.84	0.000
IV1 RIR	-	-	-0.7926 ***	.1185	-6.69	0.000
IV2 IPI	+	+	0.2135 ***	.0802	2.66	0.008
Number of Observations = 192						
Wald chi² (5) = 22688.85						
R^2 = 0.9925						
Prob > chi² = 0.0000						

Note: n = 192 DVFTSE KLCI=Dependent Variable of KL Composite Index. IV1RIR=Independent Variable 1 of Real Interest Rates. IV2IPI=Industrial Production Index. ***, **, * indicates significant at 1%, 5% and 10% respectively.

Model and results:

$$\text{FTSE KLCI}_{it} = -102.2182 - 0.7926\ \text{RIR}_i + 0.2135\ \text{IPI}_{it} + \varepsilon_{it}$$
$$(0.000\ ***) \quad (0.008\ ***)$$

The empirical results from the random-effects model reveal statistically significant relationships between the Real Interest Rate (RIR), the Industrial Production Index (IPI), and the movements of the FTSE Bursa Malaysia KLCI (FTSE KLCI) over a 16-year period. These findings provide direct answers to the study's research questions, confirming that both macroeconomic variables are key determinants of stock market movements in Malaysia.

The coefficient for RIR is –0.7926, with a p-value of 0.000, indicating a highly significant negative relationship at the 1% level. This suggests that an increase in real interest rates is associated with a significant reduction in FTSE KLCI movements, likely due to the dampening effect on speculative investment behavior when borrowing costs rise.

In contrast, the IPI has a positive and statistically significant effect, with a coefficient of 0.2135 and a p-value of 0.008, also significant at the 1% level. This result implies that higher levels of industrial production are associated with increased stock market movements, possibly reflecting heightened economic activity and market sensitivity to industrial performance.

The model's constant term is –102.2182 ($p < 0.001$), and the model shows strong explanatory power, with an R^2 of 0.9925, indicating that approximately 99.25% of the variation in FTSE KLCI movements is explained by the model. The Wald chi² statistic of 22688.85 and a p-value of 0.0000 confirm the model's overall statistical significance.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

The results demonstrate that both RIR and IPI are significant predictors of FTSE KLCI movements, with opposing effects: RIR reduces movements, while IPI increases it, underscoring the complex influence of macroeconomic conditions on stock market dynamics in Malaysia.

Hypotheses Testing

Table 3.0 Outcomes for Hypotheses Testing

Hypotheses	Coefficients	P-values	Outcomes
H_1: Gross Domestic Product (GDP) significantly affects the movements of the FTSE KLCI	-0.7926	0.000	Accepted
H_2: Gross Domestic Product (GDP) significantly affects the movements of the FTSE KLCI	0.2135	0.008	Accepted

The results from the random-effects regression model provide strong empirical support for both research hypotheses.

For Hypothesis 1 (H_1), which posited that the Real Interest Rate (RIR) significantly affects the movements of the FTSE Bursa Malaysia KLCI, the coefficient for RIR is –0.7926 with a p-value of 0.000. The negative sign indicates an inverse relationship, meaning that higher real interest rates are associated with lower market movements. Since the p-value is well below the 0.01 threshold, the result is statistically significant at the 1% level. Therefore, H_1 is accepted, confirming that RIR plays a stabilizing role in the Malaysian stock market.

For Hypothesis 2 (H_2), which proposed that the Industrial Production Index (IPI) significantly affects FTSE KLCI movements, the estimated coefficient is 0.2135, and the p-value is 0.008, also statistically significant at the 1% level. The positive coefficient suggests that increases in industrial production are linked to higher stock market movements. This supports the notion that industrial growth heightens market activity and investor reactions. As a result, H_2 is accepted, affirming the role of IPI as a movements-enhancing macroeconomic factor.

The findings support both hypotheses, indicating that RIR and IPI are statistically significant determinants of FTSE KLCI movements, with RIR reducing and IPI increasing market fluctuations.

Discussion

This study examined the impact of the Real Interest Rate (RIR) and Industrial Production Index (IPI) on the movements of the FTSE Bursa Malaysia KLCI over a 16-year period. The findings confirm that both variables significantly influence market movements, reinforcing the role of macroeconomic fundamentals in shaping investor behavior and market dynamics.

The results align with the semi-strong form of the Efficient Market Hypothesis (EMH), which posits that stock prices fully and promptly reflect all publicly available information, including macroeconomic indicators (Fama, 1970). The negative and statistically significant effect of RIR suggests that increases in real interest rates reduce market movements, likely by discouraging speculative activities as the cost of borrowing rises. This finding supports

International Journal of Entrepreneurship and Management Practices
IJEMP
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020
previous evidence by Yusuf and Ibrahim (2023) and Khan et al. (2021)), who demonstrated that interest rate policy can act as a stabilizing tool in emerging financial markets.

In contrast, the positive and significant relationship between IPI and FTSE KLCI movements implies that industrial growth, while generally indicating economic expansion, also leads to heightened investor responses and short-term market fluctuations. This is consistent with the findings of Salim and Roslan (2022) and Lee and Azam (2020), who emphasized that production trends are closely watched by investors and often lead to increased trading activity and movements. These outcomes reflect the EMH framework, where market participants react rationally and quickly to economic data, particularly when interpreting industrial output as a signal of future corporate earnings and macroeconomic health.

The model's strong explanatory power ($R^2 = 0.9925$) further confirms that RIR and IPI are reliable predictors of stock market movements. This aligns with research by Lim and Nordin (2020), who reported that Malaysia's stock market is highly sensitive to domestic economic indicators, and Nasir et al. (2019), who found that Malaysian markets respond sharply to macroeconomic shocks. These results strengthen the argument that the Malaysian capital market processes public economic information efficiently, consistent with the EMH.

Conclusions and Recommendations

This study contributes meaningfully to the literature by reaffirming that real interest rates (RIR) and the industrial production index (IPI) are critical macroeconomic drivers of stock market movements in Malaysia. The empirical findings emphasize the significance of these variables in explaining fluctuations in the FTSE KLCI and highlight their practical value in forecasting market behavior. While the results align with the Efficient Market Hypothesis (EMH), the presence of short-term anomalies suggests that behavioral biases and temporary inefficiencies may also influence investor decision-making, especially during periods of rapid economic changes or external shocks.

The research objectives outlined in this study examining the effects of RIR and IPI on the FTSE KLCI are clearly achievable within the study's scope. Using a robust quantitative methodology and monthly panel data over a 16-year period, the study successfully identifies statistically significant relationships, thereby fulfilling the core aims of the research. The exceptionally high explanatory power ($R^2 = 0.9925$) further supports the reliability of the empirical model. As such, the objectives are not only realistic but were effectively addressed using empirical evidence, reinforcing the study's contribution to both academic discourse and practical financial analysis.

Based on the findings, several recommendations are proposed for key stakeholders, with careful consideration of the potential obstacles they may encounter. For policymakers, particularly those involved in monetary and fiscal planning, it is recommended that real interest rates be strategically monitored and adjusted to help stabilize financial markets. The study indicates a negative relationship between RIR and stock market performance, implying that prudent interest rate management can reduce speculative activities and dampen excessive volatility. However, a potential obstacle is the lagged impact of interest rate changes on market behavior, as well as inconsistent market reactions. To address this, policymakers should improve communication of monetary policy intentions to the public, which can help align expectations and minimize uncertainty.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

Regulatory authorities such as the Securities Commission Malaysia and Bursa Malaysia are encouraged to strengthen real-time market surveillance and enhance disclosure practices, especially during periods of significant industrial growth. Effective monitoring and timely dissemination of relevant data can reduce the likelihood of overreactions caused by sudden industrial surges. Nonetheless, regulators may face challenges in real-time data capture and enforcement. To overcome this, investment in digital regulatory technologies and stronger inter-agency coordination are necessary to improve oversight and information flow.

Investors and fund managers should incorporate macroeconomic indicators—specifically RIR and IPI—into their investment decision-making frameworks. Monitoring shifts in interest rates and industrial production can provide valuable signals for adjusting portfolio strategies, managing risks, and optimizing asset allocations. A key challenge, however, lies in interpreting complex economic data and translating it into actionable investment decisions. This can be addressed by leveraging analytical tools or platforms that simplify and visualize macroeconomic trends, making them more accessible for informed investment planning.

Economic analysts and market forecasters are advised to integrate RIR and IPI into their forecasting models, as these variables exhibit strong explanatory power ($R^2 = 0.9925$) in predicting market movements. While this presents an opportunity for improving the accuracy of forecasts and enhancing risk management practices, the risk of model overfitting or the misinterpretation of correlation as causality remains a concern. To mitigate this, analysts should apply robust validation techniques and consider incorporating structural breaks or nonlinear dynamics into their models to ensure reliability and relevance.

Contributions of the Study

This study makes a significant contribution to the financial and macroeconomic literature by demonstrating that real interest rates (RIR) and the Industrial Production Index (IPI) are crucial drivers of stock market movements in Malaysia. By analysing a long-term dataset spanning from 2008 to 2023, the study captures the effects of major global and domestic shocks such as the Global Financial Crisis and the COVID-19 pandemic as well as Malaysia's policy transitions. These insights provide a robust framework for understanding the interaction between macroeconomic indicators and stock market dynamics across different economic regimes. The findings hold practical value for various stakeholders.

Policymakers, particularly those involved in monetary and fiscal planning, are advised to manage interest rates prudently, as the study shows a negative relationship between RIR and stock market movements. By doing so, they can minimize excessive market fluctuations and contribute to financial market stability.

Regulatory authorities, including the Securities Commission Malaysia and Bursa Malaysia, should consider enhancing real-time surveillance systems and disclosure mechanisms. This is especially vital during periods of rapid industrial expansion when sudden changes in output may lead to overreactions in the market. Improved information dissemination can foster more rational investor responses.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

For investors and fund managers, the study emphasizes the importance of monitoring macroeconomic trends particularly changes in RIR and IPI as part of portfolio risk assessment and investment strategy. These indicators can help optimize asset allocation, improve timing decisions, and better manage exposure to market fluctuations.

Economic analysts and market forecasters can also benefit from the study's empirical evidence. With a strong explanatory power ($R^2 = 0.9925$), RIR and IPI should be incorporated into forecasting models to enhance the precision of market movement projections and improve risk evaluation practices.

The study supports the need for financial education programs to include content on macroeconomic indicators and their influence on stock market performance. Increasing investor awareness of these factors can help reduce emotionally driven decisions, promote rational investing, and contribute to greater market stability overall.

While the results are consistent with market efficiency theories, the potential for short-term overreactions also suggests the presence of behavioral biases and temporary inefficiencies. This opens avenues for future research that blends traditional finance with behavioral insights in the context of emerging markets like Malaysia.

Limitations of the Study

This study is subject to several limitations that should be acknowledged. Firstly, it focuses exclusively on two macroeconomic variables: Real Interest Rate (RIR) and Industrial Production Index (IPI) while excluding other potentially influential factors such as inflation, exchange rates, foreign investment flows, and political instability. These omitted variables may also have significant effects on stock market movements and could alter the overall interpretation of market dynamics.

Secondly, the study is confined to the FTSE Bursa Malaysia KLCI, limiting the generalizability of the findings to other financial markets. Structural and regulatory differences between markets, as well as investor behavior, may influence how macroeconomic variables affect movements. Thirdly, the use of monthly data, while effective for capturing medium to long-term trends, may miss short-term fluctuations or intraday shocks that could provide more granular insights into market behavior.

Additionally, although the Random Effects Model (REM) is suitable for panel data analysis, it may not fully capture non-linear relationships or dynamic interactions between variables over time. Finally, the analysis assumes that the market behaves efficiently in accordance with the semi-strong form of the Efficient Market Hypothesis (EMH). However, the study does not explicitly account for behavioral biases or irrational investor reactions, which could occasionally distort market efficiency.

Suggestions for Future Research

To build on this study, future research should consider incorporating a broader range of macroeconomic and financial variables, such as inflation, exchange rates, oil prices, and foreign direct investment, to provide a more holistic understanding of market movements drivers. Employing high-frequency data such as daily or weekly observations could also uncover short-term movements patterns and immediate investor responses to economic news.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

Comparative studies across different emerging or developed markets would offer valuable insights into whether the observed relationships hold in various economic and regulatory environments. Additionally, future researchers could apply more advanced modelling techniques, such as Generalized Autoregressive Conditional Heteroskedasticity (GARCH) or Vector Autoregression (VAR), to capture dynamic and non-linear interactions more effectively.

Future research should investigate the role of behavioral factors and potential market anomalies that may persist despite evidence of efficiency. Exploring short-term overreactions, investor psychology, or informational asymmetries could offer deeper insights into the complexities of Malaysia's capital market beyond the Efficient Market Hypothesis.

Another promising avenue for future inquiry is the integration of behavioral finance variables, including investor sentiment indices or measures of psychological biases, to assess how irrational behavior influences movements. Lastly, evaluating the impact of specific policy interventions such as changes in interest rates, fiscal stimulus packages, or regulatory reforms can shed light on the effectiveness of macroeconomic policies in stabilizing financial markets.

Acknowledgements
The authors acknowledge the support provided by Global Academic Excellence (M) Sdn. Bhd. in facilitating the publication of this manuscript, titled "FTSE KLCI Dynamics: Impact of Real Interest Rates and Industrial Production Index". The institutional contribution has been instrumental in ensuring the successful dissemination of this research. Gratitude is also extended to Professor Dr. Md. Aminul Islam and Dr. Aliana Shazma Amir Amir for their valuable supervision, insightful guidance, and critical feedback throughout the development of this article. Appreciation is further conveyed to all individuals and institutions whose assistance and expertise have supported the completion of this research. Future publications are anticipated to further contribute to the academic discourse in the fields of finance and economics through continued collaboration with Global Academic Excellence (M) Sdn. Bhd.

References

Ali, R., Ghani, E. K., & Karim, M. R. A. (2010). Stock market and economic growth in Malaysia: Causality test. *Asian Journal of Business and Accounting, 3*(2), 1–19.

Baltagi, B. H. (2021). *Econometrics* (6th ed.). Springer.

Bank Negara Malaysia. (2008–2023). *Monetary and financial statistics*. https://www.bnm.gov.my

Brooks, C. (2019). *Introductory econometrics for finance* (4th ed.). Cambridge University Press.

Bursa Malaysia. (n.d.). *Markets and financial information*. https://www.bursamalaysia.com

Chen, N.-F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. The Journal of Business, 59(3), 383–403.

Chong, L. L., Ahmad, Z., & Hassan, S. (2021). Testing market efficiency in Malaysia: A sectoral analysis of the FTSE Bursa Malaysia Index. *International Journal of Economics and Management, 15*(1), 45–58.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach* (5th ed.). SAGE Publications.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

Department of Statistics Malaysia. (2008–2023). *Monthly Industrial Production Index*. https://www.dosm.gov.my

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance, 25*(2), 383–417.

Fama, E. F. (1981). Stock returns, real activity, inflation, and money. *The American Economic Review, 71*(4), 545–565.

Gan, C., Lee, M., Au Yong, H. H., & Zhang, J. (2006). Macroeconomic variables and stock market interactions: New Zealand evidence. *Investment Management and Financial Innovations, 3*(4), 89–101.

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). McGraw-Hill.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2021). *Multivariate data analysis* (8th ed.). Cengage Learning.

Hashim, N. A. (2021). *Macroeconomic determinants and stock market performance: Evidence from Malaysia* [Master's thesis, Universiti Utara Malaysia]. UUM Electronic Theses and Dissertation. https://etd.uum.edu.my/10321

Hussainey, K., & Ngoc, L. K. (2009). The impact of macroeconomic indicators on Vietnamese stock prices. *The Journal of Risk Finance, 10*(4), 321–332. https://doi.org/10.1108/15265940911001384

Ibrahim, M., & Wan Yusoff, W. S. (2001). Macroeconomic variables, exchange rate and stock price: A Malaysian perspective. *IIUM Journal of Economics and Management, 9*(2), 141–163.

Khan, M. A., Rehman, A., & Latif, R. (2021). Macroeconomic determinants of stock market movements in Asian economies. *International Journal of Finance & Economics, 26*(3), 3405–3420.

Khan, R., Ahmad, M., & Hussain, S. (2021). Interest rate and stock market movements in Asian emerging markets. *Asian Economic and Financial Review, 11*(2), 97–112.

Lee, C. Y., & Azam, M. (2020). Macroeconomic variables and stock market movements: Evidence from Malaysia. *Journal of Economic Studies, 47*(6), 1303–1320.

Lee, N., & Isa, M. (2021). Macroeconomic indicators and capital market performance: Malaysian evidence. *Asian Journal of Economics and Finance, 3*(2), 22–35.

Lim, K. P., & Nordin, N. A. (2020). Real interest rate and stock market performance in ASEAN countries. *Asian Economic and Financial Review, 10*(7), 826–837.

Lim, Y. S., & Nordin, N. A. (2020). Economic policy uncertainty and stock market movements: Evidence from Malaysia. *Malaysian Journal of Economic Studies, 57*(2), 251–268.

Md Salleh, F. H., et al. (2020). The impact of macroeconomic variables on Malaysia's stock market during the global financial crisis. *International Journal of Academic Research in Business and Social Sciences, 10*(3), 205–218.

Mohamad, A., Rahman, A. A., & Ismail, N. (2020). High-frequency analysis of macroeconomic news and stock index movements: Evidence from Malaysia. *Asian Academy of Management Journal of Accounting and Finance, 16*(2), 45–66.

Nasir, M. A., & Khalid, M. (2019). Macroeconomic determinants of stock market movements in ASEAN countries: A panel data analysis. *Emerging Markets Finance and Trade, 55*(11), 2405–2423.

International Journal of Entrepreneurship and Management Practices
EISSN : 2600-8750
IJEMP
Volume 8 Issue 31 (September 2025) PP. 304-319
DOI: 10.35631/IJEMP.831020

Nasir, M. A., Soliman, A., & Ahmad, M. (2019). Do emerging markets react differently to macroeconomic shocks? Evidence from Malaysia. *Emerging Markets Finance and Trade, 55*(11), 2405–2423.

Ruslan, M. F. S. (2022). *The relationship between macroeconomic indicators and stock market performance in Malaysia during the COVID-19 pandemic* [Bachelor's thesis, Universiti Teknologi MARA]. UiTM Institutional Repository. https://ir.uitm.edu.my/id/eprint/99653

Salim, R., & Roslan, A. H. (2022). Industrial production and market fluctuations: Evidence from ASEAN countries. *Asian Journal of Economic Modelling, 10*(1), 14–26.

Salim, R., & Roslan, A. H. (2022). The dynamic impact of industrial performance on stock returns in ASEAN economies. *International Journal of Emerging Markets, 17*(3), 651–670.

Torres-Reyna, O. (2022). *Panel data analysis using Stata*. Princeton University.

Wong, S. Y., & Rahim, A. R. A. (2022). Investor overreaction and market efficiency: Evidence from Malaysia during political turmoil. *Journal of Behavioral Finance & Economics, 12*(3), 89–104.

Wooldridge, J. M. (2020). *Introductory econometrics: A modern approach* (7th ed.). Cengage.

World Bank. (2023). *World Bank Open Data*. https://data.worldbank.org

Yusuf, S., & Ibrahim, S. (2023). Interest rate policy and financial stability: An emerging market perspective. *Global Finance Journal, 56*, 100787.

Zainudin, R., Ibrahim, M., & Yusoff, S. (2021). Financial markets and macroeconomic shocks: Evidence from Malaysia during COVID-19. *Strategic Management Research Journal, 12*(1), 44–56.